

Biased random walk on supercritical percolation clusters.

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Abstract:

We will present results on biased random walks on supercritical percolation clusters. This is a natural model for observing trapping phenomena and anomalous long-term behaviors.

We will explain why this model exhibits a phase transition from positive speed to zero speed as the bias increases. Furthermore, we shall discuss a subtle difficulty appearing when trying to rescale such a process to obtain scaling limits.

This talk will be based on past and ongoing work of Alexander Fribergh and Alan Hammond.